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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,936

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EXAMINER

ANGADI, MAKI A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,936	Applicant(s) COTTRELL ET AL.	
	Examiner MAKI A. ANGADI	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/24/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim is 21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants do not indicate clearly what this claim is dependent on and hence render the claim indefinite.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Title of the Invention

3. The title of the invention is not descriptive. The phrase "Process" for a title is not commensurate with the scope of invention. A new title is required that is clearly indicative of the invention to which the claims are directed.

Arrangement of the Specification

4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

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- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-20 are rejected under 35 U.S.C. 103(a) over Hopper et al. (US Patent No. 7,314,573) in view of Schemenaur et al. (U.S. Patent No. 6,444,140).

As to claims 1, 3, Hopper discloses a method which reads on the process for etching a metal or alloy surface comprising applying a etch-resist ink by ink jet printing (col.1, lines 33-42) to selected or specific areas of the metal or alloy (col.1, lines 64-67) by chemical etching process (col.1, lines 10-12) wherein the etch-resist contains the following components: (A) 30-90 parts of functional monomers that are free from acids and 1-30 parts of functional monomers containing acid groups (col.2, lines 26-31) (B) 1-5 parts of colorant (col.2, line 34) (C) 0-5 parts of surfactant (col.2, line 36); wherein the ink has a viscosity of not greater than 30 cPs (col.2, line 55) at the firing temperature of about 30-60°C (col.2, lines 64-65), all parts by weight and total number of parts $A+B+C=100$ (col.3, lines 1-2).

Hopper does not explicitly disclose metal chelating group in the etch-resist ink. However, Schemenaur discloses etch resistant metal chelating group (claim 5, col.4, lines 34-36) e.g. azole compounds (col.3, lines 46-54) for micro-etching metal surfaces. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select metal chelating agents in the composition because

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Schemenaur illustrates that the chelating agents facilitate micro-etching of metal surface so as to increase the surface area of the metal surface and provide the acid resistance to the micro-etched metal surface (col.2, lines 24-28).

As to claims 2, 5, 6 and 7, Hopper discloses the carboxylic acid groups (col.3, lines 62-65, col.4, lines 4-9).

As to claim 4, Hopper discloses metal chelating groups e.g. aldehyde (col.8, line 21).

As to claim 8, Hopper discloses metal chelating group wherein one of the metal chelating group is an acid group (col.2, line 30-31) and metal chelating group is free from an acid group (col.2, lines 26-29)

As to claims 9, 10, Hopper discloses the use of colorant (col.2, line 34) is a pigment (col.6, line 33) and colorant is blue (col.6, line 63).

As to claim 11, Hopper discloses the use of a filter with a pore size of about 1 micron (col.9, lines 6-9).

As to claims 12-13, Hopper discloses the viscosity of ink in the range 8-20 cPs at 40°C (claim 8) firing or operating temperatures in the range from 25°C to 65°C (col.2, lines 52-56).

As to claim 14, Hopper discloses the acid value in the range 10 mg KOH/g to 200 mg KOH/g (col.4, lines 48-53).

As to claim 15, Hopper discloses plating metal such as, copper, tin, tin/lead, nickel and gold (col.8, lines 43-52).

As to claim 16, Hopper discloses carrier vehicle comprises polyamide polymer (col.5, line 16).

As to claim 17, Hopper does not explicitly disclose the etching fully penetrates the metal or alloy. However, Hopper discloses etching by dipping in the temperature range of 20°C to 100°C and controlling the speed of etching (col.9, lines 16-26). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to etch to penetrate the metal alloy because Hopper illustrates the need to penetrate the metal in the fabrication of electronic devices by ink jet printing (col.2, lines 11-25).

As to claims 18-19, Hopper discloses solidified etch-resist is removed after etching using an alkaline medium (col.10, lines 11-13).

As to claim 20, Hopper discloses an etched metal coated with etch resist (col.1, lines 64-67, col.2, lines 12-16).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated over Anthony et al. (US Patent No. 4,933,209).

Anthony discloses a method of making a thin film magnetic recording head (20) (Fig.1-3) that includes bottom magnetic yoke (22), dielectric substrate (23), a dielectric layer (24) disposed on the top of a surface of the bottom yoke (22) (col.3, lines 54-67) and includes the steps of reactive ion etching process (col.4, lines 44-53) and other steps in the product formation are defined in claims 1 and 7. It is noted that the patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAKI A. ANGADI whose telephone number is (571)272-8213. The examiner can normally be reached on 8 AM to 4.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is

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available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Maki A Angadi/
Examiner, Art Unit 1792

/Binh X Tran/
Primary Examiner, Art Unit 1792